

Richard Alley
Penn State



Dr. Richard Alley is the Evan Pugh Professor of the Department of Geosciences and Associate of the EMS Environment Institute at Pennsylvania State University. He teaches and conducts research on the paleoclimatic records, ice dynamics, and sedimentary deposits of large ice sheets, as a means of understanding the climate system and its history, and projecting future changes in climate and sea level. Dr. Alley has authored many publications, including his book on abrupt climate change, *The Two-Mile Time Machine*. A Fellow of the American Geophysical Union, he has chaired the National Academy of Sciences' and National Council's panel on abrupt climate change.

In this interview:

- Overview of climate system, greenhouse effect, and human contribution to climate change

Erin Baker
UM Amherst



Erin Baker is an associate professor of engineering at the University of Massachusetts Amherst. Her research interests include applying operations research methods to environmental and energy economics and policy; how uncertainty impacts global climate change policy in a strategic environment; the economics of distributed generation; and the interplay between energy and development in Africa. In 2008, she led a team in issuing a report that analyzes the potential impact on climate change of research and development into various carbon capture and storage technologies. Dr. Baker is also concentrating on possible failures and breakthroughs in solar, nuclear, bio-electricity, batteries, biofuels, and wind and solar grid integration.

In this interview:

- Decision-making under uncertainty
- Modeling an energy technology research and development portfolio

James Balog
Extreme Ice Survey



James Balog is the Founder and Director of the Extreme Ice Survey, a collaborative project between artists and scientists devoted to documenting changes in glaciers and raising public awareness of climate change. In addition to 30 years of experience photographing nature, Balog holds a master's degree in geomorphology from the University of Colorado. Balog is the author of six books, including *Survivors: A New Vision of Endangered Wildlife* and *Tree: A New Vision of the American Forest*. His images are

exhibited in museums and galleries worldwide and regularly published in such magazines as *Life*, *Vanity Fair*, and *The New York Times Magazine*.

In this interview:

- Role of visuals in perception of climate change
- Experience of photographing the Greenland ice sheet

Eric Barron
NCAR



Eric J. Barron, director of the National Center for Atmospheric Research (NCAR), came to NCAR in 2008 after serving as dean of Jackson School of Geosciences at the University of Texas at Austin. His research interests are in the areas of climatology, numerical modeling, and Earth history. Dr. Barron has served on a number of National Research Council panels and also chaired the Science Executive Committee for NASA's Earth Observing System and NASA's Earth Science and Applications Advisory Committee (ESSAC). He earned his Ph.D. in oceanography and his master's degree in oceanography, marine geology and geophysics from the

University of Miami.

Ray Bradley
UM Amherst



Ray Bradley is Director of the Climate System Research Center at the University of Massachusetts, Amherst as well as a University Distinguished Professor in the Department of Geosciences. Research by the Center is focused on climatic variability and global change issues, from contemporary climate variations and their causes and consequences to paleoclimatic and paleoenvironmental changes. Bradley has written/edited eleven books on climatic change and paleoclimatology and has authored more than 120 articles on climate change related. He has been an advisor to various governmental, national and international agencies, including the U.S., Swiss, Swedish, German and U.K. National Science Foundations, NOAA, and the IPCC.

In this interview:

- Range of global paleoclimate techniques
- Calibrating climate proxies and using them in models

Julie Brigham-Grette
UM Amherst



Dr. Julie Brigham-Grette has been teaching at the University of Massachusetts-Amherst since 1987 and conducting research in the Arctic for nearly 30 years. As a member of the Climate System Research Center, her research is concerned with late Cenozoic marine and non-marine stratigraphic problems in Arctic regions and in regional correlations and paleoclimate reconstructions, especially across Arctic North America and eastern Russia. Long-range research interests are in the paleogeography and sea level history of the Bering Strait region and seas, the circum- Arctic coast, Arctic climate evolution since the Miocene. She is currently leading an international team of scientists in a major field project in Siberia. The scientists are gathering data that should provide the most detailed record of past Arctic climate to date.

In this interview:

- Lake core research on Lake El'gygytyn
- Using paleoclimate to model the future of the Arctic

Kim Cobb
Georgia Tech



Kim Cobb is an assistant professor in the School of Earth and Atmospheric Sciences at the Georgia Institute of Technology. She obtained her BA from Yale University in 1996, majoring in biology and geology, with a minor in art history. In 1994 she attended a summer program at the Scripps Institute of Oceanography, in La Jolla, CA, after which she decided to pursue a graduate degree in Oceanography at Scripps. After earning her Ph.D. in Oceanography in 2002, she spent two years at Caltech in the Department of Geological and Planetary Sciences as a postdoctoral fellow before joining the faculty at Georgia Tech in 2004. Kim

has sailed on six oceanographic cruises as part of her research, which is based in the tropical Pacific. She has also led three caving expeditions to the rainforests of Borneo for her research.

In this interview:

- El Niño-Southern Oscillation paleoclimate reconstructions
- Role of corals as paleoclimate proxies

Ed DeLong
MIT



Edward DeLong is a professor in the division of biological engineering and department of civil and environmental engineering at MIT and an associate member at the Broad Institute. His group works to develop the field of microbial community genomics and metagenomics. Part of this activity involves defining and mapping the intersections of gene, organism and environmental distributions in natural microbial habitats. Another aspect of this research aims to use microbial community genomic data to define higher order biological interactions, including metabolic interdependencies, host-parasite and symbiotic interactions, and resiliency in microbial community structure and function.

In this interview:

- Microbes' consumption and production of greenhouse gases
- Oceanic methane production

Emanuele Di Lorenzo
Georgia Tech



Emanuele Di Lorenzo is an associate professor in the School of Earth and Atmospheric Sciences at the Georgia Institute of Technology. In 1997, he obtained his Laurea in Marine Environmental Sciences, from the University of Bologna, Italy. Then in 2003 he obtained a Ph.D. in Climate Sciences from Scripps Institution of Oceanography, in the University of California, San Diego. Di Lorenzo's research interests include Ocean and climate dynamics regional and coastal oceanography, low frequency ocean variability, ocean and inverse modeling, physical-biological interactions and ocean-atmosphere dynamics.

In this interview:

- Ocean/atmosphere heat circulation
- Changing ocean currents' effect on biota

Scott Doney
WHOI



Scott Doney is a Senior Scientist in the Department of Marine Chemistry and Geochemistry at the Woods Hole Oceanographic Institution. He studies marine biogeochemistry and ecosystem dynamics, large-scale ocean circulation and tracers, and the global carbon cycle. He graduated with a Ph.D. from the Massachusetts Institute of Technology/Woods Hole Oceanographic Institution Joint program in 1991 and was a postdoctoral fellow and later a scientist at the National Center for Atmospheric Research, before returning to Woods Hole in 2002. He was awarded the James B. Macelwane Medal from the American Geophysical Union in 2000 and was a 2004 Aldo Leopold Leadership Fellow.

In this interview:

- Ocean chemistry and acidification & ecosystem response
- Oceanic carbon sinks

Hugh Ducklow
MBL



Hugh Ducklow is the Co-Director of the Marine Biological Laboratory's Ecosystems Center. He is a biological oceanographer and has been studying the dynamics of plankton foodwebs in estuaries, the coastal ocean, and the open sea since 1980. Dr. Ducklow has worked principally on microbial foodwebs and the role of heterotrophic bacteria in the marine carbon cycle. Much of his work was done in the decade-long Joint Global Ocean Flux Study (JGOFS), which Dr. Ducklow led in the late 1990s. Currently, he leads the Palmer Antarctica Long Term Ecological Research Project on the west Antarctic Peninsula, investigating the responses of the marine ecosystem to rapid climate warming. He also leads an International Polar Year (IPY) project to examine the structure of Antarctic marine bacterial communities and their adaptations

to the Austral winter.

In this interview:

- Climate change impacts on Antarctic marine ecosystem
- Rapid climate change

Kerry Emmanuel
MIT



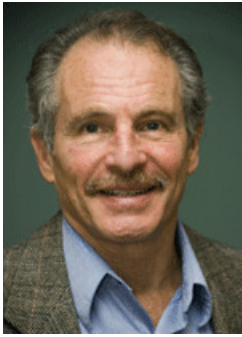
Dr. Kerry Emanuel is a professor of atmospheric science at the Massachusetts Institute of Technology, where he has been on the faculty since 1981, after spending three years as a faculty member at UCLA. Professor Emanuel's research interests focus on tropical meteorology and climate, with a specialty in hurricane physics. His interests also include cumulus convection, and advanced methods of sampling the atmosphere in aid of numerical weather prediction. He is the author or co-author of over 100 peer-reviewed scientific papers, and two books, including *Divine Wind: The History and Science of Hurricanes*, recently released by Oxford University Press and aimed at a general audience, and *What We Know about Climate Change*, published by

the MIT Press.

In this interview:

- Global warming's impact on hurricanes
- Damage to U.S. coastlines by hurricanes

**Paul Epstein
Harvard**



Paul R. Epstein, M.D., M.P.H. is Associate Director of the Center for Health and the Global Environment at Harvard Medical School and is a medical doctor trained in tropical public health. He has worked in medical, teaching and research capacities in Africa, Asia and Latin America and in 1993, coordinated an eight-part series on Health and Climate Change for the British medical journal, Lancet. He has worked with the IPCC, NOAA, NASA, and the National Academy of Sciences to assess the health impacts of climate change and develop health applications of climate forecasting and remote sensing. Dr. Epstein also served as a reviewer for the Health chapter of the Millennium Ecosystem Assessment. He was awarded the Nobel Peace Prize in 2007 for his contributions to the work of the IPCC.

In this interview:

- Direct and indirect impacts of climate change on infectious disease

**Chris Field
Stanford**

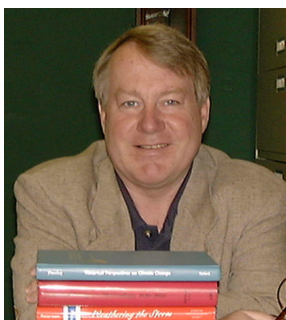


Chris Field is the founding director of the Carnegie Institution's Department of Global Ecology, professor of biological sciences at Stanford University, and faculty director of the Jasper Ridge Biological Preserve. His research emphasizes ecological contributions across the range of earth-science disciplines. At the ecosystem-scale, Field has, for more than a decade, led major experiments on grassland responses to global change, experiments that integrate approaches from molecular biology to remote sensing. Field is active in developing the international community of global change researchers. An author of more than 100 scientific papers, he is a member of the US National Academy of Sciences and a leader in efforts to provide the scientific foundation for a sustainable future.

In this interview:

- IPCC involvement and inside look at report process
- Major conclusions of 2007 IPCC report

**James Fleming
Colby College**



James Rodger Fleming is a historian of science and technology and Professor of Science, Technology and Society at Colby College. His teaching bridges the sciences and the humanities, and his research interests involve the history of the geophysical sciences, especially meteorology and climate change. Professor Fleming earned a B.S. in astronomy from Pennsylvania State, an M.S. in atmospheric science from Colorado State, and an M.A. and Ph.D. in history of science from Princeton. He is the founder of the International Commission on History of Meteorology and the editor of its journal, History of Meteorology. He has written several books and is currently writing a history of weather and

climate control.

In this interview:

- History of climate change research

David Foster
Harvard



David R. Foster is professor of biology at Harvard University and director of the Harvard Forest and its Long-Term Ecological Research program, one of 25 national centers for ecological research funded by NSF. He has written numerous articles relating to forest ecology, forest dynamics, and vegetation change in the northeastern United States. He is also the author, co-author, or editor of several books, including *Stepping Back to Look Forward: A History of the Massachusetts Forest* (Harvard Forest, Harvard University, 1998; Charles Foster, ed.), *Thoreau's Country: Journey Through a Transformed Landscape* (Harvard University Press, 1999), and *New England Forests Through Time: Insights from the Harvard Forest Dioramas* (Harvard University Press, 2000).

In this interview:

- Harvard Forest LTER and its contribution to climate change research
- Projected impacts of climate change on forested ecosystems
- Modeling future U.S. land use

Patricia Gober
Decision Center for a Desert City



Patricia Gober is co-Director of the National Science Foundation's Decision Center for a Desert City which studies water management decisions in the face of growing climatic uncertainty in Greater Phoenix. She is a past President of the Association of American Geographers and former member of the Population Reference Bureau's Board of Trustees and the Science Advisory Board of NOAA. Her most recent book, *Metropolitan Phoenix: Place Making and Community Building in the Desert*, was published by the University of Pennsylvania Press in 2006. She is a fellow of the American Association for the Advancement of Science, and was awarded the Prince Sultan Abdulaziz International Price for Water in November, 2008.

Michael Graham
Moss Landing Marine Laboratories



Dr. Mike Graham is an experimental ecologist interested in the population biology of habitat-forming species, and the role that variability in the population dynamics and biogeography of these species plays in regulating the ecology and evolution of their associated communities. His research program currently focuses on seaweed-based systems (primarily kelps) to investigate the various physiological, ecological, and genetical processes that regulate kelp population biology and to examine the consequences of such habitat dynamics on the various physical and biological processes that ultimately determine the productivity, structure, and diversity of kelp forest communities.

In this interview:

- Resiliency of ocean ecosystems
- Variability among species' responses

Jacqueline Grebmeier

Maryland Center for Environmental Science Chesapeake Biological Laboratory



Jacqueline Grebmeier is a Research Professor and a biological oceanographer at the Maryland Center for Environmental Science Chesapeake Biological Laboratory. She is the US delegate to the International Arctic Science Committee, a current member of the US Polar Research Board of the National Academies, and served formerly as a Commissioner of the US Arctic Research Commission following appointment by President Clinton. Over the last 20 years she has participated in more than 35 oceanographic expeditions on both US and foreign vessels, many as Chief Scientist. She is the overall project lead scientist for the US Western Arctic Shelf-Basin Interactions project, one of the largest US funded global change studies now

underway in the Arctic.

In this interview:

- Arctic marine ecosystems' role in the global carbon cycle
- Oceanic carbon sinks

Charles Greene **Cornell**



After receiving his PhD in Oceanography from the University of Washington in 1985, Charles Greene began a postdoctoral fellowship at the Woods Hole Oceanographic Institution (WHOI). He maintains a visiting investigator position at WHOI to this day. In 1986, he joined the faculty at Cornell as a visiting assistant professor in the Section of Ecology & Systematics. Through the years at Cornell, he has served as the Director for the Biological Resources Program and the Ocean Resources & Ecosystems Program in the Center for the Environment. Currently, Greene is a professor in the Department of Earth & Atmospheric Sciences.

In this interview:

- Ecosystem regime shifts from base of the food chain
- Change in species distribution in Northwest Atlantic

Andrea Grottoli **Ohio State**



Andrea Grottoli is an assistant professor of earth sciences at Ohio State University. She has spent the last 14 years studying two common forms of coral that populate the reefs near the Hawaii Institute of Marine Biology.

In this interview:

- Impact of climate change, through ocean pH and temperature, on coral reefs
- Different coral species' resiliency

Jessica Hellmann
Notre Dame



Jessica Hellmann is an assistant professor of biological sciences at the University of Notre Dame. She is studying the diversity of ways in which local and regional climatic effects are altering population dynamics. She uses butterflies to understand the effects of climate change on nature. Because detailed climate study in every ecological system would be a daunting task, her research compares two butterfly species in western North America with the goal of predicting climatic impacts on endangered, vulnerable and culturally valued species. A member of the Notre Dame faculty since 2003, Hellmann earned her doctorate from Stanford University and completed postdoctoral research there and at the University of British Columbia.

In this interview:

- Species' responses to climate change
- Biological feedbacks to climate change
- Managed relocation

Beth Holland
NCAR



Beth Holland is a biogeochemist who studies the link between the chemistry of the atmosphere and ecosystems on Earth, with an emphasis on how air pollution climate change, and ecosystems interact. As leader of NCAR's Biogeosciences Program, she brings a biological perspective to geophysics and atmospheric research. Some of her specific research topics include the regional and global nitrogen cycles and their interactions with the carbon and water cycles; the connections between biogeochemistry and the climate system; and the use of nitrogen deposition measurements to understand the global nitrogen cycle. She was a lead author on both the 2007 and 2001 Intergovernmental Panel on Climate Change assessments.

In this interview:

- Interaction of carbon and nitrogen cycles with climate system
- IPCC involvement

Greg Henry
University of British Columbia



Greg Henry is a professor in the Department of Geography at the University of British Columbia. He holds a B. Sc. Honours, M.E.S. from Dalhousie University and a Ph.D. from the University of Toronto. Research interests are centered on community and autecology of arctic plants, especially causes and consequences of biodiversity change; climate-plant relationships and the effects the climate change; succession after deglaciation; and the range ecology of arctic ungulates.

In this interview:

- Observed changes in ecology of tundra in lower Arctic, effects on albedo and food web
- Warming experiments in tundra with ITEX

Marika Holland
NCAR



Marika Holland is an ice specialist in the oceanography section of NCAR's Climate and Global Dynamics division. Her research interests are related to the role of sea ice and polar regions in the climate system, including ice/ocean/atmosphere feedback mechanisms, high latitude climate variability, and abrupt climate change. She is also interested in coupled climate modeling and the improvement of sea ice models for climate simulations.

In this interview:

- Basics of sea ice and feedback effects of its loss
- Sea ice's role in climate system

Duncan Irschick
UM Amherst



Duncan Irschick is an associate professor of biology at the University of Massachusetts Amherst. His research addresses the interface among organismal design, function, and ecology. Broadly, he is interested in the evolution of complex functional systems in all its facets. The research integrates microevolutionary and macroevolutionary approaches, and his lab applies both experimental and descriptive approaches to understand the causes, and ultimately the consequences, of this diversity. Much of his research has focused on lizards as a model system, but he also conducts studies with many other taxa, such as spiders, frogs, snakes, ungulates, salamanders, and mice.

In this interview:

- How animals adapt to different environments
- Rapid evolution in lizards
- Species response to global change

Cliff Jacobs
NSF



Dr. Cliff Jacobs is head of the UCAR and Lower Atmospheric Facilities Oversight Section of the National Science Foundation's Division of Atmospheric Sciences.

In this interview:

- History of NSF and NCAR involvement in climate change research

Brendan Kelly
NSF



Dr. Brendan Kelly is Associate Vice President for Research and Associate Professor of Marine Biology at the University of Alaska. Presently, he is serving a two-year assignment as Program Director for Arctic Biology in the Office of Polar Programs at the National Science Foundation. He received degrees in Biology from the University of California Santa Cruz (B.A.), the University of Alaska Fairbanks (M.S.), and Purdue University (Ph.D.). Dr. Kelly has been studying polar marine mammals for the past 30 years, and he serves on local, state, national, and international scientific panels.

In this interview:

- Impact of loss of sea ice on ring seals and other marine mammals
- Difficulty of modeling ecological responses

Joanie Kleypas
NCAR



Joanie Kleypas is a marine ecologist/geologist that focuses on how coral reefs and other marine ecosystems are affected by changes in the Earth's atmosphere and climate. Dr. Kleypas is currently a scientist in the Environmental and Societal Impacts Group at NCAR. She obtained a Ph.D. from James Cook University, where, as a Fulbright scholar to Australia, she conducted a reef-coring program to examine the causes of differences in coral reef development in the southern Great Barrier Reef. She is currently involved with issues relating to the direct effects of increasing atmospheric CO₂ on coral reefs, specifically how CO₂-induced changes in seawater chemistry affect the rates at which reef-building coral and algae secrete their calcium carbonate skeletons.

In this interview:

- Ocean acidification's impact on coral reefs
- Differential effects in different regions

David Lobell
Stanford



David Lobell is an Assistant Professor at Stanford University in Environmental Earth System Science, and a Center Fellow in Stanford's Program on Food Security and the Environment. His research focuses on identifying opportunities to raise crop yields in major agricultural regions, with a particular emphasis on adaptation to climate change. His current projects span Africa, South Asia, Mexico, and the United States, and involve a range of tools including remote sensing, GIS, and crop and climate models. Prior to his current appointment, Dr. Lobell was a Senior Research Scholar at FSE from 2008-2009 and a Lawrence Post-doctoral Fellow at Lawrence Livermore National Laboratory from 2005-2007. He received a PhD in Geological and Environmental Sciences from Stanford University in 2005, and a Sc.B. in Applied Mathematics, Magna Cum Laude from Brown University in 2000.

In this interview:

- Climate change impacts on food security

David Lodge
Notre Dame



Dr. David Lodge and his collaborators study freshwater ecosystems including the Great Lakes, and invasive species in terrestrial, marine, and freshwater ecosystems. Following postdoctoral research and teaching at the University of Wisconsin-Madison, Lodge joined the faculty at Notre Dame in 1985, where he is now Professor and Director of the Center for Aquatic Conservation. As part of the Millennium Ecosystem Assessment sponsored by the UN, Lodge led global analyses of current and potential future losses of freshwater biodiversity in response to climate change and human consumption of water. He has published over 130 scientific papers, and testified before congressional committees on research priorities and invasive species policy.

In this interview:

- Increased ability for species' invasions with climate change
- Invasive species' exacerbation of climate change effects

Susan Lozier
Duke



Susan Lozier is a physical oceanographer with interests in large-scale ocean circulation. Upon completion of her Ph.D. at the University of Washington, she was a postdoctoral scholar at Woods Hole Oceanographic Institution. She has been a member of the Duke faculty since 1992 and is currently the chair of the Earth and Ocean Sciences Division. Professor Lozier was the recipient of an NSF Early Career Award in 1996, was awarded a Bass Chair for Excellence in Research and Teaching in 2000, received a Duke University Award for Excellence in Mentoring in 2007 and was named an AMS Fellow in 2008.

In this interview:

- Global ocean circulation and oceanic conveyor belt
- Discerning climate variability from climate change
- Carbon sequestration in deep ocean

Ariel Lugo
Luquillo Experimental Forest LTER



Ariel E. Lugo, Ph.D. is an ecologist and Director of the USDA Forest Service International Institute of Tropical Forestry. He has spent most of the past 35 years studying tropical forest ecosystems in various parts of the world. Dr. Lugo received the Distinguished Service Award from the U.S. Department of Agriculture in 1988 and the Distinguished Scientist Award from the U.S. Forest Service in 1990. With other colleagues, he is co-principal investigator in the National Science Foundation Luquillo Experimental Forest Long-Term Ecological Research Program in Puerto Rico.

In this interview:

- Tropical forests' responses to climate change
- Hurricanes' impacts on ecosystems
- Role of longterm research sites in providing data for climate science

Michael Mann
Penn State



Dr. Michael E. Mann is a member of the Penn State University faculty, holding joint positions in the Departments of Meteorology and Geosciences, and the Earth and Environmental Systems Institute (ESSI). He is also director of the Penn State Earth System Science Center (ESSC). His research focuses on the application of statistical techniques to understanding climate variability and climate change from both empirical and climate model-based perspectives. Current areas of research include paleoclimate data synthesis and statistical climate reconstruction using climate “proxy” data networks, and model/data comparisons aimed at understanding the long-term behavior of the climate system and its relationship with possible external

(including anthropogenic) “forcings” of climate.

In this interview:

- Temperature reconstruction of the last 1,000 years and human contribution
- Committed climate change
- Possibility of climate tipping point

Jerry Melillo
MBL



Jerry Melillo studies how human activities are altering the biogeochemistry of terrestrial ecosystems. His research includes studies of carbon and nitrogen cycling in a range of ecosystems across the globe including arctic shrublands in northern Sweden, temperate forests in North America, and tropical forests and pastures in the Amazon Basin of Brazil. He has become increasingly committed to studying the large-scale effects of global change on terrestrial ecosystems, including effects on the chemistry of the atmosphere and on the climate system. Melillo received his B.A and M.A.T. from Wesleyan University, and his M.F.S. and Ph.D. from Yale University.

In this interview:

- Contribution of land-use change to carbon emissions
- CO₂ fertilization experiments in Harvard Forest LTER and differential species responses
- Terrestrial ecosystem model

Jacqueline Mohan
University of Georgia



Jacqueline Mohan is an assistant professor in the Odum School of Ecology at the University of Georgia. She research focuses on the impacts of past and future global changes on plant population dynamics, community interactions and ecosystem functioning. She continues to study climate feedbacks mediated by vegetation and soils, and ecological consequences of geographical genetic variation in plant responses to changing environmental factors. She received her Ph.D. from Duke University.

In this interview:

- CO₂ fertilization effects on forested ecosystems
- Increased growth, and increased toxicity, of poison ivy under elevated CO₂

Ellen Mosley Thompson
Ohio State



Ellen Thompson is a professor of geography at Ohio State University. Her research focus is paleoclimatic reconstruction from the chemical and physical properties preserved in ice cores. She has conducted ice core drilling programs in Antarctica and Greenland. Her particular interests include the role of atmospheric dust and volcanic aerosols in the climate system, the reconstruction of abrupt changes in the environmental system, incorporation of ice core records into multi-proxy climate histories, and the impact of such environmental changes upon human activities.

In this interview:

- Global climate reconstructions from ice core data
- Projecting the future of the Larsen Ice Shelf System

Marjorie Mulholland
Old Dominion



Dr. Mulholland is an associate professor of biological oceanography at Old Dominion University. She works on various aspects of carbon (C) and nitrogen (N) cycling in aquatic systems. The biogeochemical cycling of these elements affects the ecology of microbes in marine and estuarine systems. Particular aspects of these cycles being investigated in her laboratory include the uptake and regeneration of specific N and C compounds by a variety of pathways involving phytoplankton and bacteria. Other research interests include phytoplankton dynamics, microbial ecology, and dissolved organic material cycling. She received her Ph.D. from the University of Maryland.

In this interview:

- Marine nitrogen fixation & climate change
- Algal blooms' effects up the food chain

Nalini Nadkarni
Evergreen State

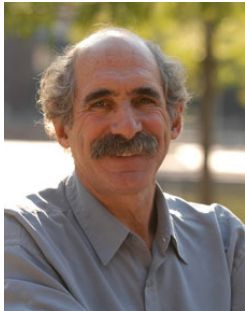


Dr. Nalini Nadkarni is a member of the faculty at The Evergreen State College where she teaches in the Environmental Studies program. She received her undergraduate degree in Biology from Brown University (1976) and her Ph.D. in Forest Ecology from the University of Washington (1983). Her research is focused on the ecology of tropical and temperate forest canopies, particularly the role that canopy-dwelling plants play in forests at the ecosystem level. She carries out field research in Washington State and in Monteverde, Costa Rica with the support of the National Science Foundation and the National Geographic Society. She has published two books and over 55 scientific articles in scientific journals in the area of forest canopy ecology and forest ecosystem ecology.

In this interview:

- Climate change impacts on tropical forests & forest resources
- Observed effects on forest biodiversity

Michael Oppenheimer
Princeton



Michael Oppenheimer is the Albert G. Milbank Professor of Geosciences and International Affairs in the Woodrow Wilson School and the Department of Geosciences at Princeton University. He is also Director of the Program in Science, Technology and Environmental Policy (STEP) at the Woodrow Wilson School. His interests include science and policy of the atmosphere, particularly climate change and its impacts. Much of his research aims to understand the potential for “dangerous” outcomes of increasing levels of greenhouse gases by exploring the effects of global warming on ecosystems such as coral reefs, on the ice sheets, and on sea level,. He also studies the role played by nongovernmental organizations in the policy arena, the role of scientific learning and scientific assessment in decisions on problems of global change, and the potential value of precautionary frameworks.

In this interview:

- IPCC involvement & report process
- Highlights of history of climate change research

Jim Patton
UC Berkeley



James Patton is a UC Berkeley biology professor emeritus and a curator at the Museum of Vertebrate Biology. He served as Curator of Mammals in the Museum of Vertebrate Zoology and as Professor of Integrative Biology (formerly Zoology) at the University of California, Berkeley, from January 1969 until June 2001. In addition to significantly advancing studies of mammalian evolutionary genetics, systematics, and phylogeography, he was instrumental in shaping the careers of vertebrate biologists throughout the Americas. He recently worked with colleagues on the first resurvey of the Yosemite Transect.

In this interview:

- Range shifts of small mammals in Yosemite National Park

V. Ramanathan
UCSD



Dr. V. Ramanathan is the Distinguished Professor of Atmospheric and Climate Sciences at the Scripps Institution of Oceanography, University of California at San Diego. In the mid-1970s, he discovered the greenhouse effect of CFCs and numerous other manmade trace gases. Dr. Ramanathan currently chairs the UNEP-sponsored ABC Project with science team members from numerous countries. He chairs the National Academy of Sciences panel that provides strategic advice to the US Climate Change Science Program (CCSP) and he is part of the Nobel Peace prize (2007) winning Intergovernmental Panel on Climate Change since its inception.

In this interview:

- Aerosol effects on radiation budget
- Clouds, aerosols, and Earth’s water cycle
- Using aerosols to slow global warming

Terry Root
Stanford



Terry Root is a Senior Fellow at the Woods Institute for the Environment and Professor, by courtesy, of Biological Science at Stanford University, primarily works on large-scale ecological questions with a focus on impacts of global warming. She actively works at making scientific information accessible to decision makers and the public (e.g., being a Lead Author for IPCC Third and Fourth Assessment Reports). In 1999 she was chosen as an Aldo Leopold Leadership Fellow, in 1992 as a Pew Scholar in Conservation and the Environment, and in 1990 as a Presidential Young Investigator Award from the National Science Foundation.

In this interview:

- Climate change impacts on birds' ranges and migration patterns

Chris Sabine
NOAA PMEL



Chris Sabine is an oceanographer at NOAA's Pacific Marine Environmental Laboratory (PMEL), who interprets inorganic carbon measurements in the oceans. He has the primary responsibility for PMEL's efforts to measure the partial pressure of CO₂ from moorings. Sabine has been a key participant in NOAA's initial efforts to understand the importance of CO₂ in the oceans and the atmosphere. He is the chairman of the UNESCO sponsored International Ocean Carbon Coordination Project (IOCCP).

In this interview:

- Search for missing carbon sinks
- Oceanic carbon sequestration
- Ocean acidification's effects on species

William Schlesinger
Cary Institute of Ecosystem Studies



Dr. William H. Schlesinger is the President of the Cary Institute of Ecosystem Studies. Before coming to the Institute, he served in a dual capacity at Duke University, as both the James B. Duke Professor of Biogeochemistry and Dean of the Nicholas School of the Environment and Earth Sciences. A graduate of Dartmouth College (A.B.) and Cornell University (PhD.), he has been investigating the link between environmental chemistry and global climate change for over 30 years. His recent work focuses on understanding how trees and soil influence atmospheric carbon dioxide levels.

In this interview:

- Soil warming and greenhouse gas emissions
- Role of nitrogen cycle in biosphere carbon uptake
- CO₂ fertilization effects on forest ecosystem

Raymond Schmitt
WHOI



Raymond W. Schmitt is a Senior Scientist at the Woods Hole Oceanographic Institution. His research interests include oceanic mixing and microstructure, double-diffusive convection, the thermohaline circulation of the ocean, oceanic freshwater budgets, and the salinity distribution and its measurement. Dr. Schmitt has served on ocean sciences and polar program panels with NSF, the Ocean Observing System Development Panel, the CLIVAR Science Steering Group, and the Ocean Studies Board. He was named a J.S. Guggenheim fellow in 1997 and has authored or co-authored over 75 publications.

Stephen Schneider
Stanford University



Stephen H. Schneider is the Stanford University Melvin and Joan Lane professor for Interdisciplinary Environmental Studies, a professor in the Department of Biological Sciences, co-director at Stanford's Center for Environmental Science and Policy, and professor by courtesy in the Department of Civil Engineering.

Schneider's current global change research interests include food/climate and other environmental/science public policy issues; ecological and economic implications of climatic change; integrated assessment of global change; climatic modeling of paleoclimates and of human impacts on climate, and environmental consequences of

nuclear war. He was a member of the scientific staff of National Center for Atmospheric Research from 1973-1996, where he co-founded the Climate Project.

In this interview:

- Public's perceptions of climate science
- Chronology of societal awareness of climate change
- IPCC involvement

Howard Spero
UC Davis



Howard Spero is a professor in the Department of Geology at the University of California Davis. His research focuses on the biological and environmental parameters that affect the stable isotope and trace metal geochemistry of the shells of recent and fossil organisms. By studying living planktonic foraminifera in the Southern California Borderland and the Caribbean, Spero is gathering data to interpret fossil foraminifera from Indian and Atlantic Ocean deep sea cores in order to reconstruct paleoenvironmental sea surface temperatures, nutrient levels and CO₂ concentrations during the Pleistocene.

In this interview:

- Reconstructing ocean temperature from foraminifera fossils in deep sea sediments
- Effects of climate change on ocean circulation

Konrad Steffen
University of Colorado, Boulder



Konrad Steffen is the Director of the Cooperative Institute for Research in Environmental Sciences (CIRES) at the University of Colorado, Boulder. His research studies climate and cryosphere interaction in polar and alpine regions using ground and satellite measurements as well as climate system modeling. He has led field expeditions to the Greenland ice sheet and other Arctic regions for the past 34 years to measure the dynamic response of ice masses under a warming climate. Dr. Steffen serves on the Science Steering Committee of the World Meteorological Organization's Climate and Cryosphere project and has helped organize PARCA: Program for Arctic Regional Climate Assessment, a joint NASA/NSF initiative.

In this interview:

- Melting of the Greenland ice sheet

Lonnie Thompson
Ohio State



Lonnie Thompson is a paleoclimatologist and Distinguished University Professor in the School of Earth Sciences at Ohio State University. He has achieved global recognition for his research on mountain glaciers and ice caps in the tropical and sub-tropical regions of the world. He and his wife, Ellen Mosley-Thompson, run the ice core paleoclimatology research group at the Byrd Polar Research Center. Thompson has published over 185 peer-reviewed publications and been recognized with many honors and awards including the National Medal of Science, the Tyler Prize (the World Prize for Environmental Achievement), and the Dan David Prize. In addition, he is an American Geophysical Union Fellow, an American Association for the Advancement of Science Fellow, and a member of the National Academy of Sciences.

In this interview:

- Climate records from glacier cores
- Global glacier retreat

Kevin Trenberth
NCAR



Dr. Kevin E. Trenberth is head of the Climate Analysis Section at NCAR. Originally from New Zealand, he obtained his Sc. D. in meteorology in 1972 from MIT. He was a lead author on the 1995, 2001, and 2007 IPCC reports. He recently served on the Scientific Steering Group for the Climate Variability and Predictability (CLIVAR) program and was co-Chair from 1995 to 1999. He also served from 1999 to 2006 on the Joint Scientific Committee of the World Climate Research Programme (WCRP) and he chairs the WCRP Observation and Assimilation Panel. He has published over 400 scientific articles or papers, including 40 books or book chapters, and over 175 refereed journal articles.

In this interview:

- Climate change impacts on the water cycle
- IPCC involvement
- Importance of projecting future effects on El Nino

Spencer Weart
American Institute of Physics



Originally trained as a physicist, Spencer R. Weart is a noted historian specializing in the history of modern physics and geophysics. He received a B.A. in Physics at Cornell University and a Ph.D. in Physics and Astrophysics at the University of Colorado, Boulder. In 1971, Dr. Weart changed his field, enrolling as a graduate student in the History Department of the University of California, Berkeley. From 1974 to early 2009 he served as Director of the Center for History of Physics, American Institute of Physics, the oldest institution dedicated to preserving and making known the history of a scientific discipline. Dr. Weart has written or co-edited seven books.

In this interview:

- History of climate change research

James White
University of Colorado, Boulder



James White is Professor in the Department of Geological Sciences and in the Environmental Studies Program at the University of Colorado in Boulder. He is also a Fellow in the Institute of Arctic and Alpine Research. Dr. White currently serves on the National Academy of Sciences' Polar Research Board, which acts as the U.S. national committee for the International Polar Year 2007–2008. His areas of research include study of the global carbon cycle, both modern and in the past, and reconstructing past environmental conditions using ice cores. Over the past two

decades he has been an investigator on five NSF-funded deep ice-coring projects in Greenland and Antarctica. He is an author on over eighty peer-reviewed publications.

In this interview:

- Ice core records of paleoclimate
- Using paleoclimate data in modeling future conditions

Peter Wiebe
WHOI



Peter Wiebe is a Senior Scientist at the Woods Hole Oceanographic Institution. His taxonomic specialty is the euphausiids, or krill, and his research interests include the quantitative population ecology of zooplankton with emphasis on zooplankton small-scale distribution and abundance; organic matter transport into the deep-sea; and ecosystem dynamics in the Gulf of Maine and the Western Antarctic Continental Shelf. He is a member of the Census of Marine Zooplankton steering group.

In this interview:

- Population dynamics of plankton species in North Atlantic
- Ocean acidification's effect on species

Steve Wofsy
Harvard



Dr. Steven C. Wofsy is the Abbott Lawrence Rotch Professor of Atmospheric and Environmental Science at Harvard University. He earned his B.S. in Chemistry from the University of Chicago, and his MA and Ph.D. in Chemistry from Harvard. His research interests include the interplay of forests and climate, inference of large-scale carbon budgets from atmospheric and land surface data, and using CO₂ as a tracer of atmospheric transport in the upper troposphere and stratosphere. He has served on the NASA Earth System Science and Applications Advisory and on the NASA Advisory Council, as well as on the Carbon Cycle Science Plan Working Group and North American Carbon Program writing group.

In this interview:

- Atmosphere/biosphere carbon exchange
- Permanency of natural carbon sinks